PREDECISIONAL – Not for Release

Ames Laboratory
Iowa State University

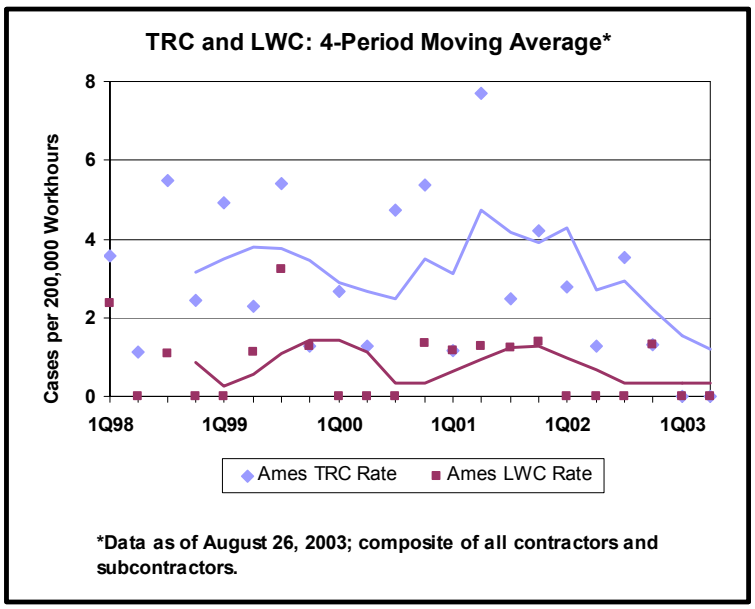
QUARTERLY REPORT
April – June 2003
Ames Laboratory

Safety-Related Mission Areas of Interest

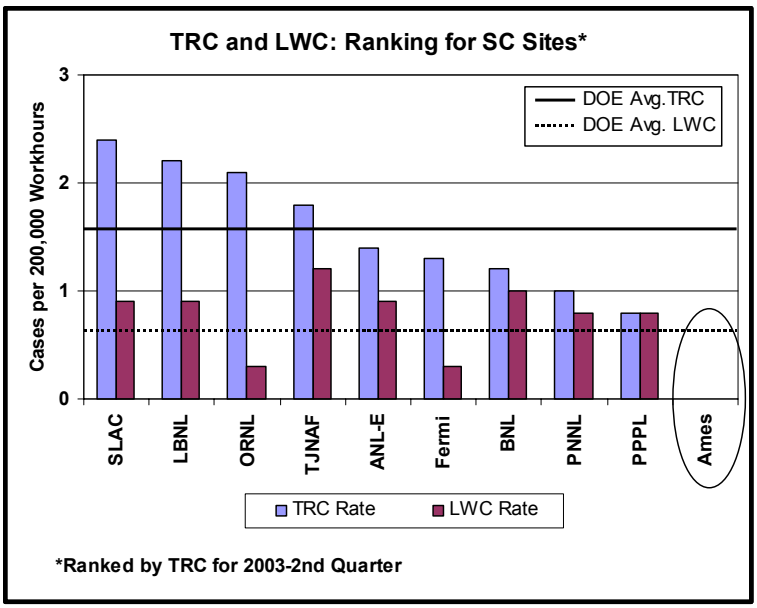
Ames Laboratory's mission is to conduct fundamental research in the physical, chemical, materials, and mathematical sciences and engineering which underlie energy generating, conversion, transmission and storage technologies, environmental improvement, and other technical areas essential to national needs. Ames core competencies are in the areas of advanced materials synthesis, characterization and processing, computational and theoretical sciences, environmental characterization and remediation technologies.

Areas for Management Attention

1. There were no Occurrence Reports or Price Anderson Act Amendments (PAAA) NTS Reports this quarter.
2. Ames Laboratory has experienced very positive improvement in their safety performance in that no recordable accident/injuries or lost workday cases were experienced for the 1st and 2nd quarters of 2003.
3. The Ames Area Office performed a document review of the Ames Laboratory PAAA Program from May 15, 2003 through May 30, 2003. The Ames Laboratory PAAA Program was evaluated against the PAAA program review guidance *Operational Procedures, Identifying, Reporting, and Tracking Nuclear Safety Noncompliances* Under Price-Anderson Amendments Act 1988. Six opportunities for improvement were identified. The corrective actions will be tracked by the Ames Area Office.



*Data as of August 26, 2003; composite of all contractors and subcontractors.



*Ranked by TRC for 2003-2nd Quarter

Key Performance Areas (There were 0 occurrences at Ames for the 2nd Quarter)	
Near Misses • None	**Criticality Infractions** • None
Radiological Concerns • None	**AB Infractions** • None
Shipping QA • None	**Safeguards and Security** • None
Occupational Safety/Industrial Hygiene • None	**Environmental Releases/Compliance** • None

Progress on Safety Management Initiatives

- Ames Laboratory in coordination with the Ames Area Office has scheduled an Integrated Safety Management System review for September 8-12, 2003. The focus of the review will be the effectiveness of Ames Laboratory's ISM implementation.
- Ames Laboratory is actively seeking disposition paths for unneeded radiological materials. Recently, a Cesium source was transferred to ANL-West for their use. Disposition paths for remaining items are being evaluated with assistance from DOE.

QUARTERLY REPORT
April - June 2003
Argonne National Laboratory – East (ANL-E)

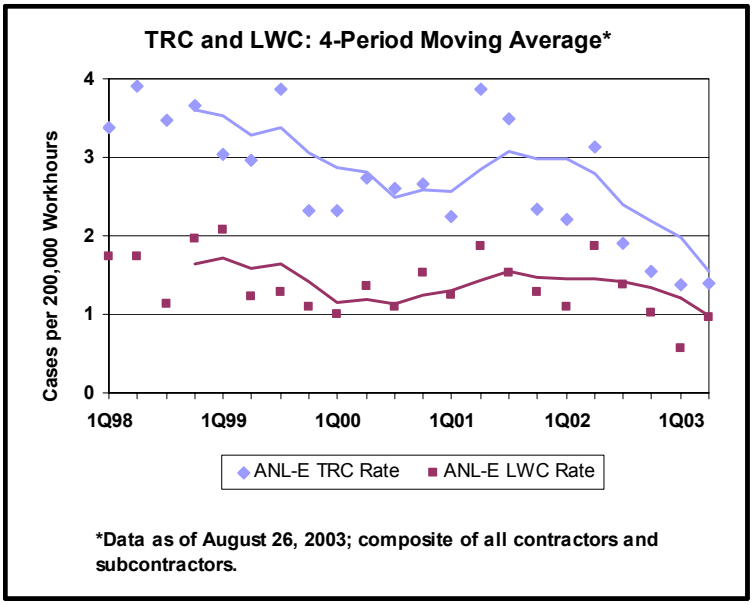
Safety-Related Mission Areas of Interest

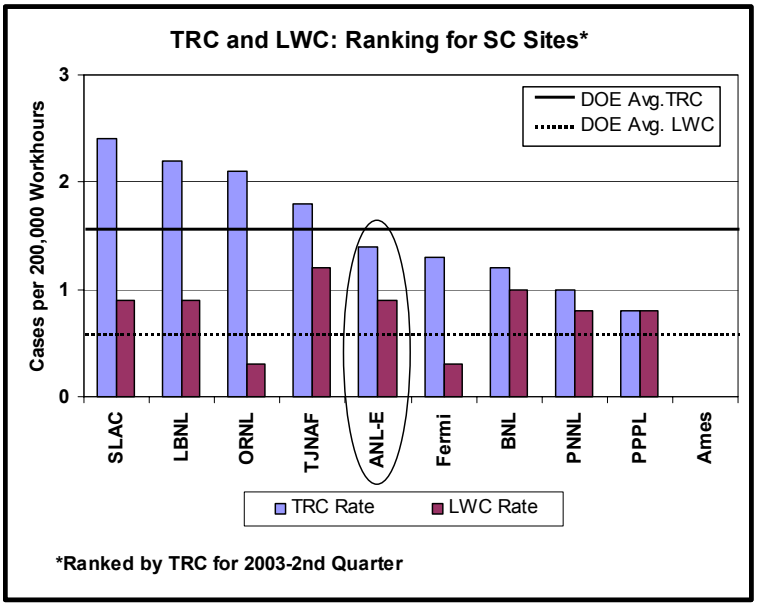
ANL-E supports DOE's missions in science, energy resources, environmental stewardship, and national security, with lead roles in science, operation of scientific facilities, and energy.

1. Off-site disposal of contact handled transuranic (TRU) waste at WIPP is continuing. This is resulting in a) significant reductions in the on-site inventory of TRU waste and consequently, a reduction in radiological risk, and b) a reduction in operational waste management costs. Through June 2003, approximately half of the contact handled TRU drums had been shipped.

Areas for Management Attention

1. AAO and ANL have completed all corrective actions to address weaknesses identified during a May 2002 OA review of ES&H and Emergency Management.





Key Performance Areas
(There were 2 occurrences at ANL-E for the 2nd Quarter)

<table>
<tr><td rowspan="3">Near Misses (0)
• None</td><td>Electrical Safety (0)
• None</td></tr>
<tr><td>Other (0)
• None</td></tr>
<tr><td>Environmental Release/Compliance (0)
• None</td></tr>
<tr><td>Shipping QA (0)
• None</td><td>Criticality Concerns (0)
• None</td></tr>
<tr><td>Fire Safety (0)
• None</td><td>AB Infractions (0)/Potential Infractions (0)
• None</td></tr>
<tr><td>Safeguards and Security (0)
• None</td><td>Material Handling (0)
• None</td></tr>
<tr><td>Equipment Degradation (0)
• None</td><td>Conduct of Operations (0)
• None</td></tr>
<tr><td>Occupational Safety/Industrial Hygiene (1)
• A high density polyethylene drum containing a Buffered Chemical Polish (BCP) solution failed due to embrittlement of the material by the acidic contents. The BCP was contained by a secondary container. No personal injury resulted. CA: The drums have been replaced by Teflon coated containers. In addition, time limits for storage of BCP in the drums have been imposed.</td><td>Radiological Concerns (1)
• During a laboratory cleanup operation, shoes of three researchers were contaminated with a radioactive isotope of carbon. There was no contamination to the workers' clothing or skin, nor any injury. Contaminated areas on the floor were identified and appropriately decontaminated. The cause was identified as mishandling of equipment or material during the cleanup. CA: Lessons learned have been shared with appropriate staff.</td></tr>
</table>

Progress on Safety Management Initiatives

- Representatives of the Nuclear Regulatory Commission (NRC) conducted a scoping visit and an in-depth review of ANL-E radiological operations. Based on this information, the cost required to achieve compliance is being estimated.
- Representatives of the Occupational Safety and Health Administration (OSHA) conducted a scoping visit at ANL-E (preparatory to an in-depth review conducted in July 2003). Based on this information, the cost required to achieve compliance is being estimated.
- ANL-E has completed its Environmental Management System description. This describes the Laboratory's program for effective environmental compliance and stewardship, and satisfies the requirements of EO 13148 and DOE Order 450.1.
- ANL-E and CH-AAO participated in the international emergency exercise Top Officials 2 (TOPOFF 2) to demonstrate the site's ability to respond to an Operational Emergency resulting from the activation of the FBI Joint Operations Center (located at the ANL-E site) or possible regional terrorism events.
- The DOE IG conducted a survey of ANL-E as part of a sampling of DOE facilities, to gather information regarding adequacy of emergency preparedness. No issues specific to ANL-E were identified.

QUARTERLY REPORT
April-June 2003
Brookhaven National Laboratory (BNL)

Safety-Related Mission Areas of Interest

BNL's major mission is to conceive, design, construct, and operate complex, leading edge, user-oriented facilities in response to the needs of the DOE and the international community of users; carry out basic and applied research in long-term, high-risk programs at the frontier of science; develop advanced technologies that address national needs; and educate new generations of scientists and engineers.

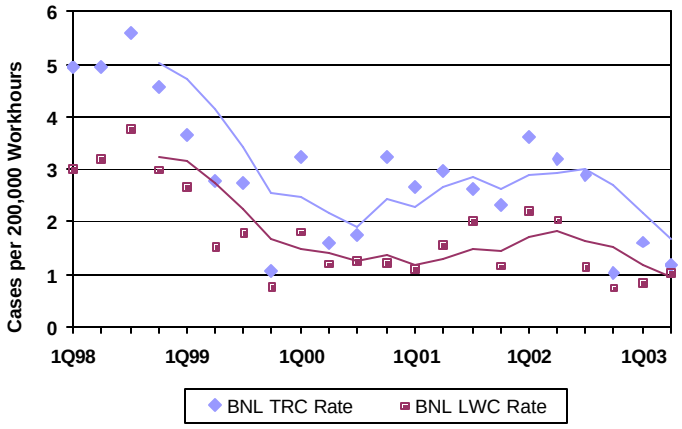
Areas for Management Attention

1. The large amounts of rain during the late spring and early summer have caused several facility roofs to leak, resulting in the potential for electrical hazards and other structural and property damage.

   Recognizing that such issues also have the potential for significant health and safety consequence, BAO has requested BNL perform a site-wide assessment of the various roof deficiencies and develop a Remediation Plan to effectively mitigate the problem. Special emphasis is to be placed on roof leaks at facilities less than 30 years old.

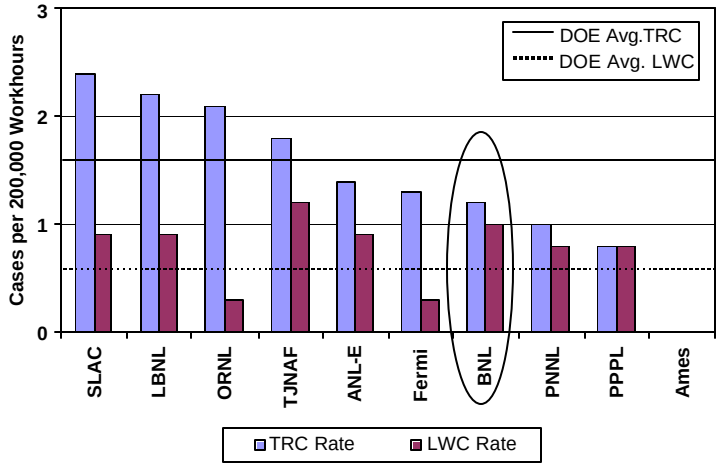
2. BNL is in the planning phase for the scheduled removal of heavily contaminated, below-grade filter banks from the Brookhaven Graphite Research Reactor. Confined space issues, a large radiological inventory, and the potential for high levels of airborne contamination are some of the concerns. The job will be performed using robotics to minimize worker exposure. BAO will maintain an active presence in these operations.

TRC and LWC: 4-Period Moving Average*



*Data as of August 26, 2003; composite of all contractors and subcontractors.

TRC and LWC: Ranking for SC Sites*



*Ranked by TRC for 2003-2nd Quarter

Key Performance Areas

(There were 9 occurrences at BNL for the 2nd Quarter, 8 of the 9 occurrences included here are associated with SC and 1 of the 9 occurrences is associated with EM)

Near Misses (2)

- Employee received an electrical shock (90-volt AC) to hand from a heating tape used for heating on a cryogenic piece of equipment. Employee reported to the Occupational Medicine Clinic for evaluation. Tests revealed no abnormalities and the employee returned to work. The cryogenic equipment is currently shut down (under a stop work order), and the Physics Department is in the process of developing, for review and approval, a new experimental safety review envelope for this operation. This will also include a review by the BNL Cryogenic Safety Committee. No work will be done until then. This work is scheduled for completion in October. *CA: 1) A complete review of the magnet system will be performed before work resumes, and the magnet yoke will be connected to ground and a waterproof heating system installed to control ice buildup. 2) Physics management will review the incident with Physics Department staff as part of the BNL Lessons Learned Program.*
- A Personnel Monitoring (PM) Group member knowingly entered a potential Oxygen Deficient Area (Liquid Nitrogen Storage Room), without proper training and safeguards, in response to a low oxygen sensor alarm. After entering the room, it was determined that there were no other signs indicating a nitrogen leak. The alarm was determined to have been false and was reset. The room was also not properly posted (e.g., Oxygen Deficiency Hazard) at the time of the incident. C*A: Administer ODH training to applicable PM Group personnel. 2) Nitrogen tank relocated to eliminate potential ODH area issues.*

Radiological Concerns (2)

- Contamination within a posted controlled area but outside a posted radiological area was discovered during a routine survey at the BGRR. *CA: Contamination removed and area reposted.*
- One radioactive contamination (thorium metal foil) found outside of a controlled area during a lab cleanup. Contamination of 30-70 dpm (alpha) was found on a countertop and envelope that contained the foil.
  CA: 1) Area posted as a "Contamination Area". 2) Decontaminate lab and de-post. 3) Dispose of contaminated material discovered/generated during incident. 4) Distribute and communicate occurrence report to Material Sciences staff.

Environmental Releases/Compliance (3)

- A Notice of Violation (NOV) was previously issued to BNL by the NYSDEC on January 14, 2003 as a result of their annual RCRA inspection for compliance with hazardous waste management regulations. The NOV contained three alleged violations pertaining to the management of CERCLA wastes, container labeling, and record keeping. Both BNL and DOE immediately challenged the validity of the allegations, in particular the CERCLA-related violation. BNL/DOE initiated discussions with NYSDEC regulatory and enforcement staff to evaluate the validity of the allegations. EPA was also contacted to help clarify the regulatory requirements and to attest to BNL compliance. On June 16, 2003, EPA-Region 2 issued a letter to the NYSDEC indicating BNL is in compliance with requirements for managing CERCLA wastes identified in the NOV. It is anticipated that NYSDEC will dismiss, in writing, all alleged violations identified in the NOV.
- A BNL fleet vehicle leaked a small amount of engine coolant onto a concrete pad and surrounding soil. *CA: 1) Material contained and cleaned up. 2) Evaluate possible replacement of ethylene glycol with propylene glycol. 3) Troubleshoot vehicle and make necessary repairs. 4) Notify BNL spill responders that ethylene glycol spills are reported to the NYSDEC and/or SCDHS and the occurrence reporting system.*
- Seven gallons of diesel fuel leaked out from the top of a subcontractor company's vehicle fill cap vent while parked at an angle. *CA: Contractor billed for total cost of remediation including soil disposal, covered roll-off dumpsters, compactable waste, and post job sampling.*

Occupational Safety/Industrial Hygiene (1) • An employee slipped and fractured his elbow in a hallway being stripped in preparation for waxing. *CA: 1) Upgrade custodial orientation to include requirement to maintain approved schedule. 2) Develop a custodial pre-job checklist for stripping/waxing activities. 3) NSLS and Plant Engineering (PE) will retrain personnel on the NSLS ESH Orientation to reemphasize appropriate action to be taken for injuries and emergency situations.*	**Safeguards and Security (1)** • An employee noticed white powder on her clothing after opening up an envelope received in the mail. The material was treated as hazardous until found to be benign after testing by the Emergency Services Division. *CA: Notify the shipping company of the potential reaction to their products containing white powder.*
	Material Handling (0) • None
Equipment Degradation (1) • Chilled water pipe burst, flooding the first and second floors of the Biology building with 28,000 gallons of water. Root Cause was a design failure; PVC pipe configuration and supports were inadequate to restrain the pipe during chilled water system anomalies. Pipe movement over the years caused fatigue at the point of failure. *CA: 1) Convert backpressure valves at the CCWF from normally closed to normally open. 2) Prepare ADS for funding to install mechanical pressure relief valve in Biology. 3) Local Emergency Coordinators and Building Managers to update run cards with uninterrupted power supplies location information.*	**Fire Safety (1)** • A man lift being used by a contracting welder experienced a hydraulic line rupture that ignited hydraulic oil coming in contact with the man lift muffler. The contractor extinguished the flames and called Fire/Rescue. No environmental release occurred. Other issues included the absence of a dedicated fire watch (required by the welding permit) and the presence of combustible materials in the immediate vicinity. Though not reported in ORPS, BAO is currently reviewing the issue for potential ORPS miscategorization. *CA: 1) BNL Project Management notified and counseled the subcontractor site manager on the noncompliance with BNL requirements.*
AB Infractions (0)/Potential Infractions (0) • None	**Electrical Safety (0)** • None
Shipping QA (0) • None	**Criticality Concerns (0)** • None
Other (0) • None	**Conduct of Operations (0)** • None

Progress on Safety Management Initiatives

- BNL has established a Safety Improvement Team to address proposed improvements identified in the DuPont Safety Resources Benchmark Assessment. A Director's Safety Committee is also being formed to provide senior leadership to the safety improvement initiative. BAO and BNL are working closely in preparing an FY04 performance measure designed to raise the BNL performance level to "Excellent" within the next two-year period for all 12 Dupont's Essential Safety Management Elements.
- As part of the FY03 contract performance measures, BSA has scheduled an independent third party evaluation of the Management System Assessment Program. A draft evaluation protocol has been developed and an independent team is being assembled for a September 2003 review.
- Two core teams have been established to facilitate accelerated EM cleanup (to be completed by fiscal year 2005).
    - A Transition Core Team has been chartered by EM-1 and SC-1 to develop the framework for the environmental cleanup activities, and the ensuing transition of Long Term Response Action requirements to SC upon EM cleanup completion.
    - A second core team, consisting of various federal, state, and local agencies, has also been formed to formulate an End-State Vision and to address pending Record of Decisions for the BNL EM Program.

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QUARTERLY REPORT
April - June 2003
Fermi National Accelerator Laboratory

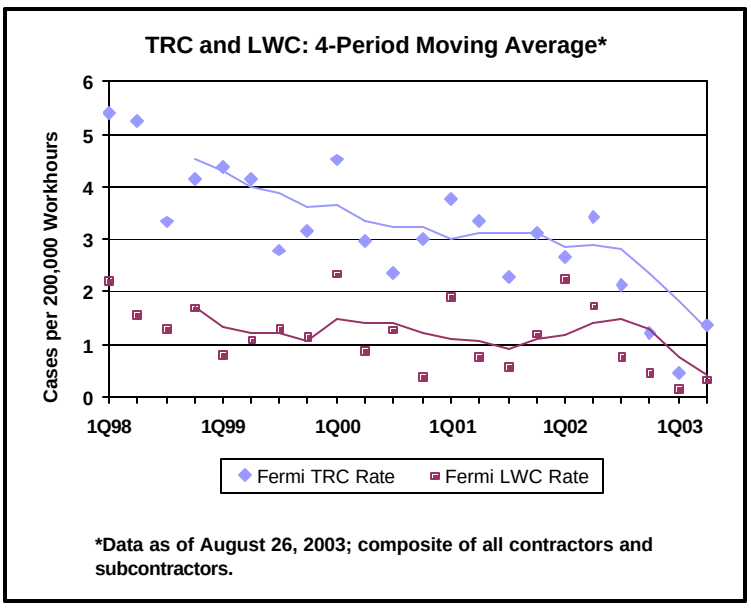
Safety-Related Mission Areas of Interest

Fermi National Accelerator Laboratory advances the understanding of the fundamental nature of matter and energy through basic research at the frontiers of high-energy physics and related disciplines.

1. **Sprinkler Head Replacement**: Fermilab was notified of potentially defective O-rings in their Central Sprinkler Company sprinklers. These O-rings could degrade over time and potentially affect activation. Fermilab chose to replace its affected sprinklers rather than have Central do it in order to have better control and meet its ISM requirements. Fermilab has replaced 85% of its 600 affected sprinklers and expects to finish by this September.
2. **Radiation Exposure Control**: The Fermilab accelerator chain is now producing proton beams at historically high levels of intensity. Continued improvements of the accelerator complex are needed to address the technical challenges posed by the physics research program. A three-week maintenance and development shutdown was carried out during January 2003. As at all DOE accelerators, the majority of worker dose is accumulated during shutdown activities. As a result, the total effective dose equivalent recorded for the first quarter was higher than in recent quarters. Twelve individuals received more than 100 mrem during the 1st quarter of CY03 with the highest individual exposure of 360 mrem. Most of the exposures received were less than 30 mrem. Efforts are underway to better understand exposure distribution and implement enhanced control measures.

Areas for Management Attention

1. **Fermilab Continues to Experience Very Few Injuries**: In the second quarter of CY2003, Fermilab employees experienced nine recordable injuries. Two resulted in restricted work activities. There were no subcontractor injuries. A subcontractor injury from the first quarter was determined to be a lost workday case. Fermilab injuries rates continue to decrease.
2. **Impacts of Scrap Metal Recycling Moratorium:** The DOE suspension on recycling of non-radioactive scrap metals removed from then-designated radiological areas continues to create space management challenges. An estimated 75,000 square feet of space as of June is dedicated to storing approximately 2.3 million pounds of scrap metals. The volume is increasing as Fermilab continues to clean out and reconstruct experimental areas. Diminishing space and increased operational costs will increase pressure to dispose of the material commercially. An estimate of cost to dispose of the materials commercially is $70,000 (vs. lost revenue of about $300,000 for recycling, based on a low-end price for steel). The inability to recycle this material also diminishes the availability to industry of an otherwise valuable resource and delays potential revenues for the laboratory.



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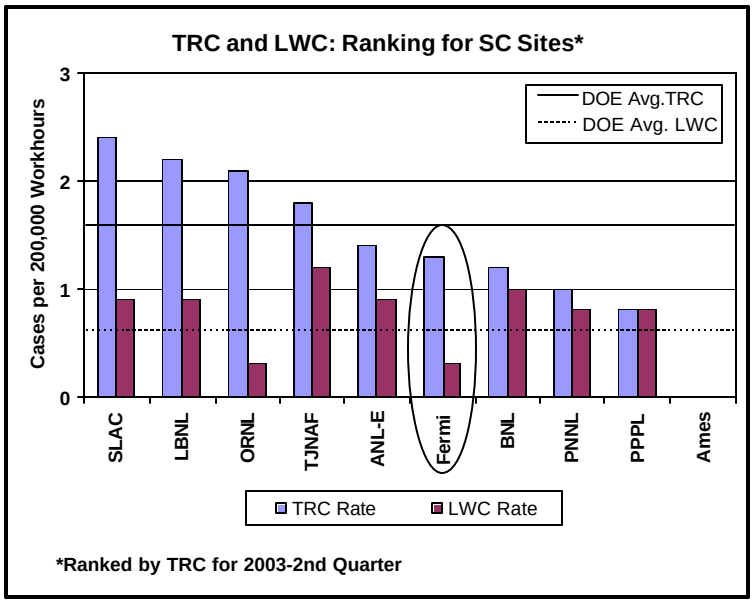


*Ranked by TRC for 2003-2nd Quarter

Key Performance Areas (There were 0 occurrences at Fermi for the 2nd Quarter)	
Near Miss (0) • None	**AB Infractions (0)/Potential Infractions (0)** • None
Radiological Concerns (0) • None	**Criticality Concerns (0)** • None
Shipping QA (0) • None	**Environmental Releases/Compliance (0)** • None
Fire Safety (0) • None	**Safeguards and Security (0)** • None
Occupational Safety/Industrial Hygiene (0) • None	**Material Handling (0)** • None
Equipment Degradation (0) • None	**Electrical Safety (0)** • None
Conduct of Operations (0) • None	**Other (0)** • None

Progress on Safety Management Initiatives

Laboratory Director's Safety Panel: The Laboratory Director established a safety panel consisting of Fermilab management, subcontractor management, and experts from DuPont and ExxonMobil to examine the barriers that keep construction subcontractors from working safely at Fermilab. The panel concluded that Fermilab has a sound construction safety program with evidence of ownership and safety leadership by most Fermilab employees. The panel identified several positive aspects of the program, including the fact that subcontractor personnel feel that Fermilab is a safe place to work. The panel also commended the use of an integrated project team approach to manage a project. Implementation is still in its early stages with further definition and maturity needed to be fully effective. Opportunities for improvement include: clarifying roles and responsibilities of construction management and safety support and oversight personnel; assuring constant and continual communication of Fermilab's expectations; establishing safety goals with subcontractors prior to start of construction and continually reinforcing and assessing progress towards these goals; and encouraging safe, successful contractors to return for future work. An action plan to address these improvement opportunities is scheduled for completion by the end of September 2003.

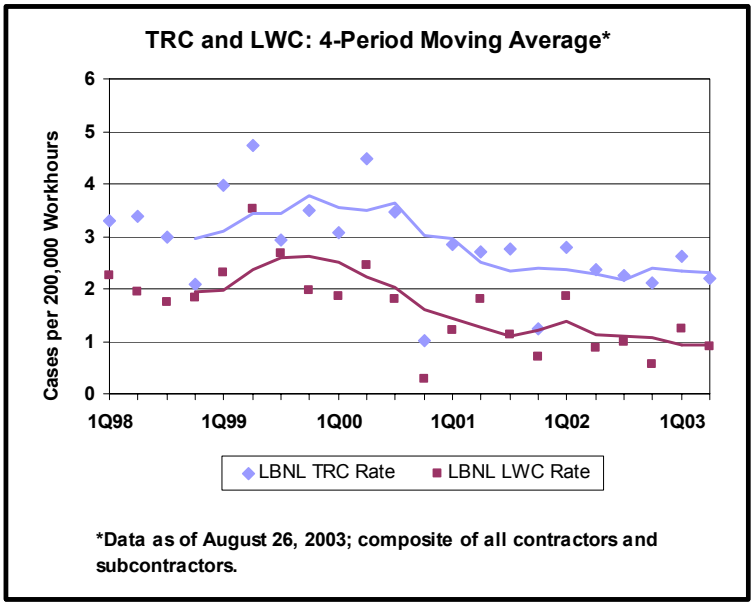
QUARTERLY REPORT
April - June 2003
Lawrence Berkeley National Laboratory (LBNL)

Safety-Related Mission Areas of Interest

The Ernest Orlando Lawrence Berkeley National Laboratory (Berkeley Lab) performs research in advanced materials, life sciences, computing sciences, energy efficiency, detectors, and accelerators to serve America's needs in technology and the environment. As stewards of a national laboratory, Berkeley Lab is committed to fulfilling its scientific mission by performing all work safely, in a manner that strives for the highest degree of protection for employees, participating guests, visitors, the public, and the environment.

Areas for Management Attention

1. Following the recommendations provided by the Hazard Analysis Review Panel, LBNL has begun instituting programmatic improvements for its Hazard Analysis System. Improvements completed during the past quarter include: revision of Chapter 6, PUB 3000, *Safe Work Authorizations*, mandatory triennial Integrated Functional Appraisals of LBNL divisions, and the on-line implementation of the new Chemical Management System. The remaining improvement actions are scheduled for completion during fiscal year 2004.



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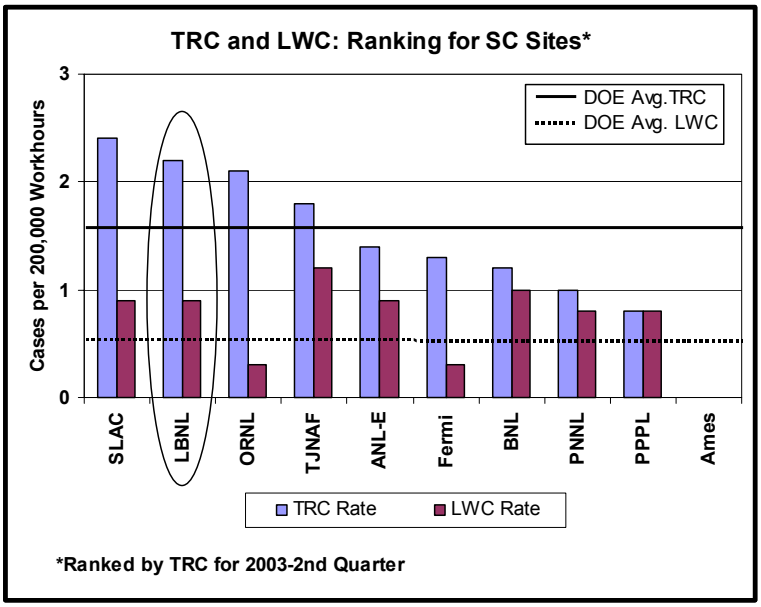

*Ranked by TRC for 2003-2nd Quarter

Key Performance Areas (There was 1 occurrence at LBNL for the 2nd Quarter)	
Near Misses (0) • None	**Criticality Infractions (0)** • None
Radiological Concerns (ionizing) (1) • A fire inspector from the Lab's Fire Department entered the neutron calibration lab without proper escort at Building 75C, a radiation controlled area, causing the security alarm to sound. Radiation Protection Group (RPG) staff responded immediately to the alarm. The fire inspector vacated the lab/controlled area and was advised by RPG staff of his unauthorized entry. Despite prior general employee radiation training (GERT), the inspector assumed that he had authorization to enter the controlled area. The root cause is personnel error - communication problem.	**AB Infractions (0)** • None
Shipping QA (0) • None	**Safeguards and Security (0)** • None
Materials Handling (0) • None	**Electrical Safety (0)** • None
Occupational Safety/Industrial Hygiene (0) • None	**Con Ops (0)** • None
Equipment Failure/degradation (0) • None	**Environmental Releases/Compliance (0)** • None
Fire Safety (0) • None	

Progress on Safety Management Issues

- **Air Emission Inspection**. The Bay Area Air Quality Management District (BAAQMD) inspected nearly all of LBNL's permitted air emission sources in May. For the first time, diesel powered standby generators, which account for the majority of the permitted sources, were inspected. There were no findings from the inspection.
- **Certification and Validation of Systems.** Action plans for each of the candidate ES&H certified systems have been completed this past quarter. The action plans describe the key milestones necessary to achieve certification or third party validation of various ES&H systems or programs. Obtaining certifications and validations will be a multi-year effort by the Lab.
- **Best practice review.** A best practice review of the LBNL Self-Assessment Program was conducted in April by an independent panel of subject matter experts. The review was part of the pilot Self-Assessment Accreditation Program sponsored by DOE/EH. The panel, consisting of representatives from EH/HQ, other SC labs, and private industry, issued their review report in late May. The report concludes that LBNL should move forward to the next step of the accreditation process, namely to present its Self-Assessment Program to the DOE Accreditation Board in Washington,

DC. A preliminary meeting between LBNL representatives and SC and EH staff met in the third quarter to begin planning for the board presentation.

- **Sanitary Discharge Use Permit.** At the request of the Central Contra Costa Sanitary District, a Baseline Monitoring Report was prepared and submitted for the Joint Genome Institute. This acts as an industrial user permit application and will enable CCCSD to determine the proper classification of the facility for purposes of regulating its process discharge.
- **Characterization of Legacy Material.** The EH&S Technical Services Group completed the characterization of legacy material at the Heavy Element Radiation Laboratory (HERL) and identified disposition paths for the material. The main part of this project lasted two years and was funded at approximately $500k total. It was a joint project between EH&S and Chemical Sciences and was a multi-disciplinary effort with significant effort from waste management, health physics, radiochemist, and industrial hygiene professionals. Over 1500 items were individually identified and characterized. These included a number of particularly difficult items such as unknown, research-generated pyrophorics with significant radiological content, contaminated glove-boxes, etc. .
- **Disposal of Peroxide-Forming Compound.** A subcontractor was brought onsite during the past quarter to remotely open an old can of diethyl ether. Diethyl ether can undergo an auto-oxidation reaction after being exposed to atmospheric oxygen to form organic peroxides and hydro-peroxides. Peroxides are unstable compounds and may detonate when subjected to shock, heat, or friction. The can of diethyly ether was safely removed from the LBNL site.
- **Building 51 Excess Facilities Removal.** In FY 2003, this very unique disassembly and removal project has proceeded in an exemplary manner, although challenged by multiple hazardous materials (asbestos and lead dust were the two most common hazards encountered in addition to induced radioactivity). No lost time accidents have occurred leading to a superior safety record. The nature of the work, weight of material handled, and number of truckloads shipped off site, make it an excellent example of project leadership and line management involving several groups within the Facilities and EH&S Divisions. The removal and disposal of former Bevatron (cyclotron) beamline components and shielding blocks have resulted in:
    - 60 truckloads of Low Level Waste successfully shipped to the NTS (the Nevada Test Site) representing 1,445 tons of concrete, steel and misc. materials.
    - 80 truckloads of carefully screened concrete and metals, 1,932 tons, were sent to the local landfill for burial.
    - 39 truckloads of carefully screened reinforced concrete blocks were transferred to two private firms agreeing to all the terms contained in the DOE metals moratorium. This represented a diversion of 854 tons from the landfill. These materials are being used by a landscape soils firm to separate products and a crane company for test weights.
    - 13 dumpsters were hauled away for disposal: 1 garbage, 4 wood materials and 8 moratorium metals for burial.

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QUARTERLY REPORT
April – June 2003
Oak Ridge National Laboratory (ORNL)

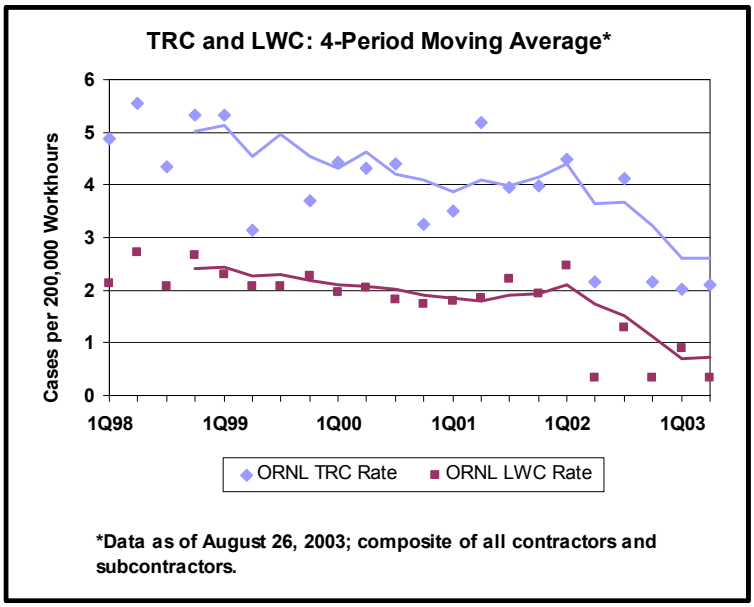
Safety-Related Mission Areas of Interest

ORNL is a multi-program science, technology, and energy laboratory with distinctive capabilities in materials science and engineering, neutron science and technology, energy production and end-use technologies, mammalian genetics, environmental science, and scientific computing. UT-Battelle, LLC, as the managing and operating contractor for the DOE, is committed to systematically carrying out its missions in a manner that achieves excellence, cost-effectiveness, and competitiveness in R&D, while simultaneously protecting its workers, the public, and the environment.

1. In June, ORNL achieved the milestone of one million hours of safe work with no cases of lost time away. Spallation Neutron Source (SNS) achieved a milestone of two million hours of safe work with no cases of lost time away.
2. As a result of an investigation of a servo motor event at HFIR (ORO-ORNL-X10HFIR-2003-0002), management discovered issues that impacted Research Reactors Division's ability to meet management expectations of performance. HFIR was placed in a management stand-down from February 2, 2003 to March 30, 2003 to effect appropriate performance improvement. Further improvement actions are on-going.
3. A recent EPA review of ORNL's Environmental Management System produced no significant issues. This positions the Laboratory for an internal ISO 14001 readiness review to be followed by a third-party Registrar review in 2004.

Areas for Management Attention

1. Both EM and SC in Oak Ridge are developing a schedule to outline an orderly transition of newly generated solid waste back to the generator over several years as the EM backlog of legacy waste is worked off.
2. OSHA/NRC inspections in support of a potential transition to external regulation were held during May and June 2003 at ORNL. NRC cost estimates activities are underway. OSHA costs were estimated to be $1.95 M but may have to be adjusted after completion of the revisit by OSHA of the ORNL medical program scheduled for late August 2003.



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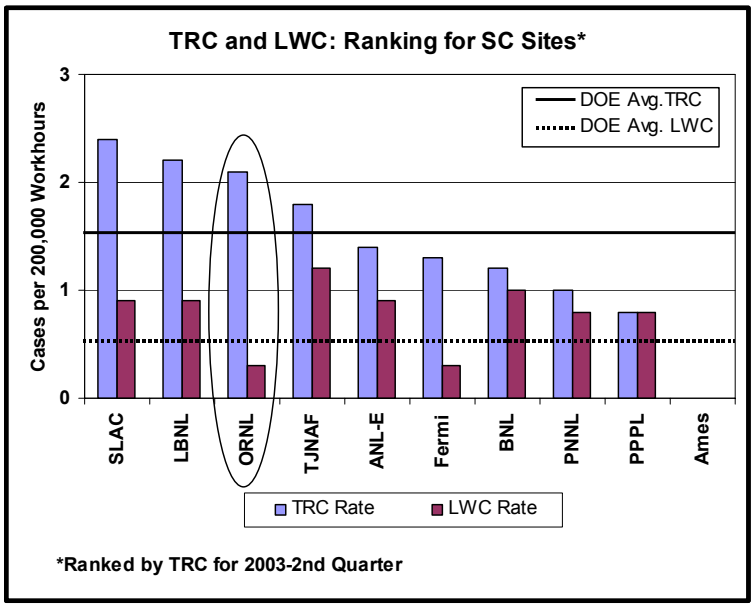


*Ranked by TRC for 2003-2nd Quarter

**(There were 26 occurrences at ORNL for the 2nd Quarter,
11 of the 26 occurrences included here are associated with NE; 14 with SC, and 1 DP
* Items noted with an "*" were Group 10C, Potential Concerns/Issue, and were not reportable under any other criteria.)**

Near Misses (3)

- While using a trackhoe to dig a trench to uncover a process drain line, the SNS construction subcontractor operator struck a 277 volt electrical line. *CA: SNS subcontractor permitting processes modified.* (SC)
- A construction pipe fitter's drill penetrated an 110 volt electrical conduit and wiring supplying a nearby outlet, causing a flash and breaker trip. *CA: Review the ORNL Excavation/Penetration Permit Exclusions to determine if the exemption clause for 2" or less penetrations in concrete floors, walls, or ceilings should be modified.* (SC)
- An SNS construction subcontractor employee received an electrical shock brushing against a circuit panel under LO/TO. The panel was internally improperly wired by the manufacturer. *CA: modify work instruction, acceptance criteria & tagging).* (SC)

Criticality Concerns (0)

- None

Radiological Concerns (10)

- 3 occurrences of spread of contamination (3 SC)
- 4 personnel contaminations (shoe/clothing) (1 SC*, 3NE)
- 3 radiological procedural violations (failures to implement controls, sign RWP, utilize PPE, adhere to posting requirements) (1 NE, 1 NE*, 1 SC)

Fire Safety (0)

- None

Occupational Safety/Industrial Hygiene (3)

- An elderly visitor tripped on a flat rubber mat in the American Museum of Science and Energy fracturing her hip. (SC)
- In one area of Building 4500N, eyewash water was discolored and had a slight smell (described as similar to diesel fuel). *Testing revealed no presence of hydrocarbons, and piping was flushed.* (SC*)
- A research staff member discovered through a Web search that a material he had synthesized several years earlier was shock sensitive. (SC*) *Material was removed safely.*

Electrical Safety (0)

- None

Material Handling (0)

- None

Conduct of Operations (0)

- None

Environmental Releases/Compliance (1)

- A pipefitter discovered traces of mercury below a sink trap. (SC)

AB Infractions (3)

- USQ: A stored methane cylinder, not considered in the fire hazard analysis, was discovered in HFIR Beam room. (NE)
- Poorly worded TSR surveillance requirement (frequency) resulted in non-performance of TSR surveillance (DP)
- A TSR violation occurred by performing operations while in Limited Operation Mode. (NE)

Other (SC) (2)

- An inspection of an overhead monorail 4000 lb hoist revealed 24 suspect counterfeit bolts. (SC)
- 4 suspect/counterfeit bolts were found in a non-load bearing application. One additional bolt was discovered after further inspection. (SC)

Equipment Degradation (4)

- Following maintenance on the failed fuel element detector circuitry for Channel 2, the flux/flow scram portion of the channel test failed to actuate properly. (NE)
- During preventive maintenance on motor pumps, Pony Motor 1H had excessive run-out and the Post Maintenance Test could not be completed for this pump. (NE)
- During the Channel No. 3 Current Ramp Test, it was noted that a Reverse occurred at approximately 15% instead of the prescribed 110%. The channel was declared inoperable. (NE)
- Power was lost to Building 3047 during high winds due to a tree branch brushing a high voltage line causing a substation feeder breaker to open. (NE)

QUARTERLY REPORT
April - June 2003
Pacific Northwest National Laboratory (PNNL)

Safety-Related Mission Areas of Interest

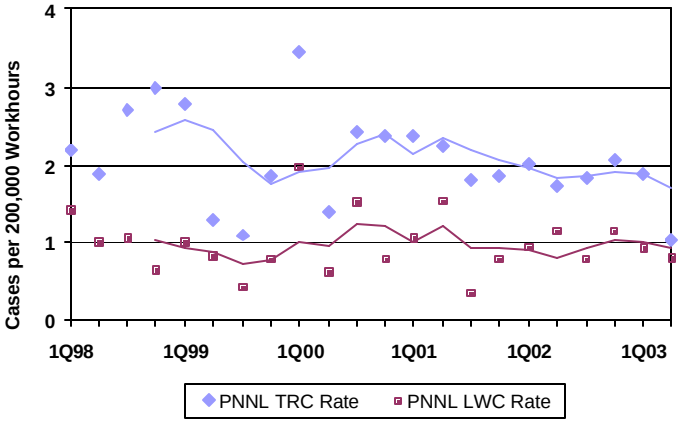
PNNL conducts high quality, leading edge, scientific research in the areas of fundamental science, environmental technology, energy science and technology, and national security. PNNL work is conducted in both government and private facilities, and includes a major user facility, the Environmental Molecular Sciences Laboratory.

Areas for Management Attention

None this quarter.

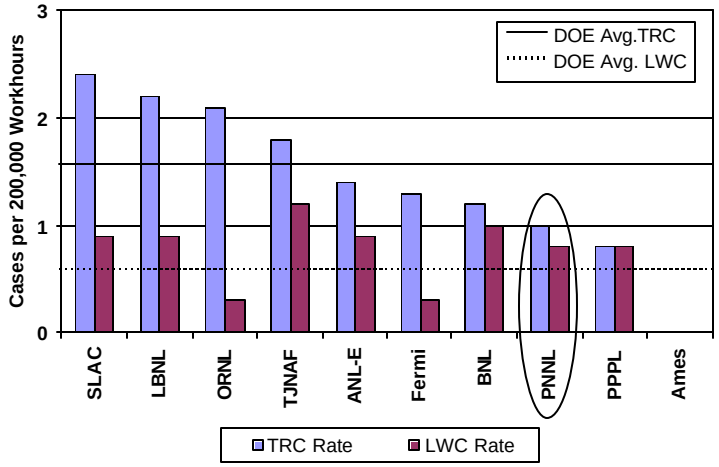
Upcoming Focused Safety Management Evaluation: The DOE Independent Oversight and Performance Assurance organization's Office of Environment, Safety and Health Evaluations (OA-50) is planning to conduct a Focused Safety Management Evaluation of PNNL from November 10-21, 2003 (with a pre-visit scheduled for September 10-12, 2003). In an effort to prepare for this evaluation, DOE and Battelle are planning to conduct independent assessments of integrated safety management implementation in July and August to evaluate the status of this system at PNNL.

TRC and LWC: 4-Period Moving Average*



***Data as of August 26, 2003; composite of all contractors and subcontractors.**

TRC and LWC: Ranking for SC Sites*



***Ranked by TRC for 2003-2nd Quarter**

Key Performance Areas

(There were 5 occurrences at PNNL for the 2nd Quarter)

Near Misses (2)

- A researcher received an electrical shock while working on energized equipment. *CA: Revise the management control systems for hazard identification, check for similar equipment Lab-wide, update hazard awareness summaries/procedures for working with similar equipment, change interlocks on equipment.*
- A technician performing maintenance (changing an air sample filter) received an electrical shock when he came in contact with the exterior case of a 110 volt electrical motor for the air sample pump which had damaged wiring inside. *CA: Repaired the pump wiring, inspect other sampling air pumps, replaced circuit breaker 20 Amp fuse with a 15 Amp fuse, install GFCI's, counsel staff, modify procedure.*

Criticality Concerns (1)

- A component of the Criticality Alarm System failed inspection and required service to become operational. The howler was out of adjustment, and an obstruction was found in the cone of the horn, apparently from tampering to reduce output volume. *CA removed obstruction, adjusted, retested and returned CAS to service. An initial message was sent to staff regarding the importance of the CAS and a lessons learned document is being prepared.*

Equipment Degradation (1)

- Sealed glass ampoules lost containment and discharged their contents and pieces of glassware into a laboratory hood and on the floor near the hood. *CA: Revise laboratory procedures and upgrade equipment.*

Conduct of Operations (1)

- An unplanned ventilation outage occurred when a circuit was incorrectly assumed to be abandoned. *CA: Identify circuit path to exhaust fan, update electrical panel schedule documentation, and revise job planning documentation.*

Fire Safety (0)

- None

Environmental Releases/Compliance (0)

- None

Shipping QA (0)

- None

Safeguards and Security (0)

- None

AB Infractions (0)/Potential Infractions (0)

- None

Occupational Safety/Industrial Hygiene (0)

- None

Material Handling (0)

- None

Electrical Safety (0)

- None

Radiological Concerns (0)

- None

Other (0)

- None

Progress on Safety Management Initiatives

- **New Risk Management System**: A new Electronic Prep & Risk (EPR) system was rolled-out at PNNL on April 14, 2003. The new system provides much better risk management at PNNL through:
  - improved risk identification,
  - integration of risk mitigation methods across PNNL,
  - connectivity with appropriate subject matter experts, and
  - strong risk review and work authorization.

Product Line Managers approve a Risk Mitigation Assessment (for proposals) and a Risk Mitigation Permit (for funded projects), before work is authorized to begin. This more rigorous work authorization process, as well as system performance enhancements, constitutes a substantial improvement over the old EPR process. Currently, many of the risk mitigation permits are being updated to the new EPR system in an expedited manner and therefore implementation of this new system is ahead of schedule.

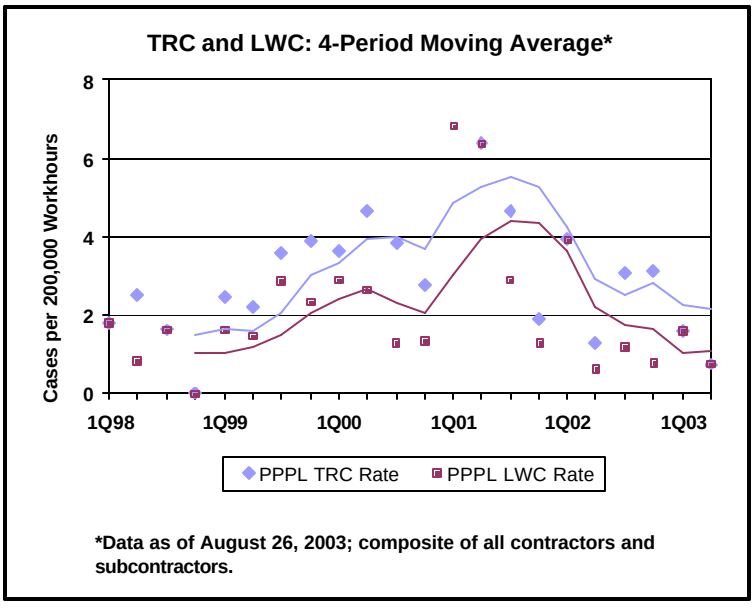
QUARTERLY REPORT
April – June 2003
Princeton Plasma Physics Laboratory (PPPL)

Safety-Related Mission Areas of Interest

PPPL is a Collaborative National Center for plasma and fusion science. Its primary mission is to develop the scientific understanding and the key innovations, which will lead to an attractive fusion energy source. Associated missions include conducting world-class research along the broad frontier of plasma science and technology, and providing the highest quality of scientific education.

Areas for Management Attention

1. PPPL experienced only 1 recordable occupational injury in the second quarter of CY2003. The Total Recordable Injury Case rate (TRC) for CY2003 is down to 1.17. This is among PPPL's historically best TRC rates. PPPL has shown consistent long-term improvement in the TRC rate over the past 3 years -- down from 5.24 in 2001 and 2.83 in 2002 to the current 1.17 through June. This rate is also among PPPL's historical best. This rate has been reduced from 4.45 in 2001 and 1.66 in 2002 – a significant and consistent long-term improvement.



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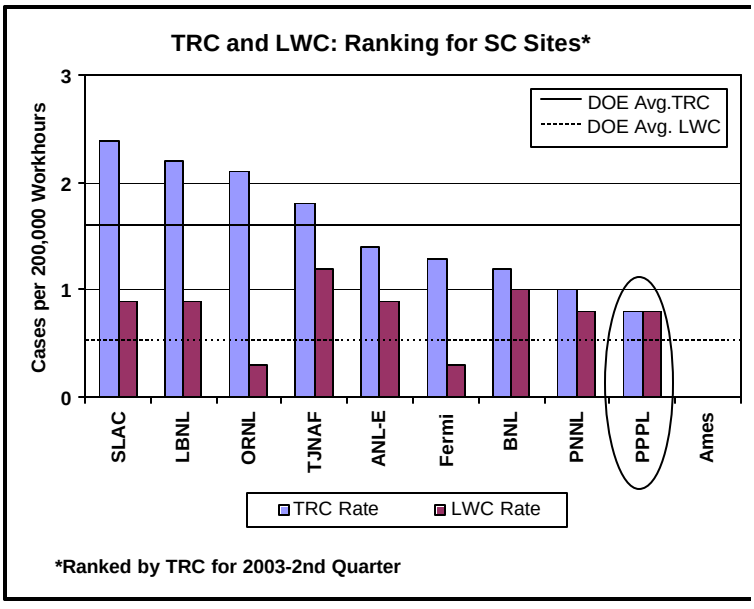


*Ranked by TRC for 2003-2nd Quarter

Key Performance Areas

(There were 2 occurrences at PPPL for the 2nd Quarter)

Near Misses (0)

- None

Radiological Concerns (0)

- None

Criticality Concerns (0)

- None

Shipping QA (0)

- None

Safeguards and Security

- None

AB Infractions (0)

- None

Environmental Releases/Compliance (1)

- Approximately 18 gallons of crankcase oil leaked into the catch pan underneath the Diesel Generator mixing with an accumulation of rainwater. From the catch pan approximately 2 gallons of liquid ran onto the concrete pad then onto the stone covered ground. *CA: The Diesel Generator was tagged out of service. Oil spill bags and absorbent were placed around the spill to contain and absorb the oil. The mixture of oil and water were vacuumed out of the collection pan, the ground area was excavated and placed in drums, and soil samples were taken to confirm clean-up. A thorough equipment inspection was performed including areas under the engine and other couplings that showed signs of potential problems were fixed immediately.*

Fire Safety (1)

- Noncompliance with flame permit procedure.

A Cafeteria Sub-Contractor employee was holding a special outdoor summer picnic event. During the event a serving tray with a lighted sterno container was bumped and fell over causing two paper tablecloths to ignite. The fire was extinguished after a very short period with bottled water. The requirement of the Flame Permit that was issued to the Manager of the Cafeteria was violated resulting in noncompliance with PPPL procedures. The activity was stopped and discontinued pending further investigation and re-training of personnel working in the area.

Conduct of Operations (0)

- None

Occupational Safety/Industrial Hygiene (0)

- None

Materials Handling (0)

- None

Other (0)

- None

Equipment Degradation (0)

- None

Electrical Safety (0)

- None

Progress on Safety Management Initiatives

- Preparation for External Regulation continued during the second quarter of CY02. Coordination with the Occupational Safety and Health Administration (OSHA) and the Nuclear Regulatory Commission (NRC) for on-site inspections is proving very valuable. The NRC and OSHA will conduct site inspections at PPPL during the summer of 2003.
- PPPL began using a trial rating system for areas that have been inspected as part of a Management Safety Walk-through. These adjectival ratings were developed to draw more attention to those geographical locations that need more management attention and also to those areas that have attained favorable safety ratings and can be used as examples of proactive management. The first ratings were reported at the July 2003 Lab Management Review meeting.
- The frequency of safety walkthroughs by professional safety staff was increased during the quarter to enhance information on the OSHA compliance status of labs and shops, and to focus more attention on corrective actions needed in certain areas such as housekeeping and emergency egress.

QUARTERLY REPORT
April – June 2003
Stanford Linear Accelerator Center (SLAC)

Safety-Related Mission Areas of Interest

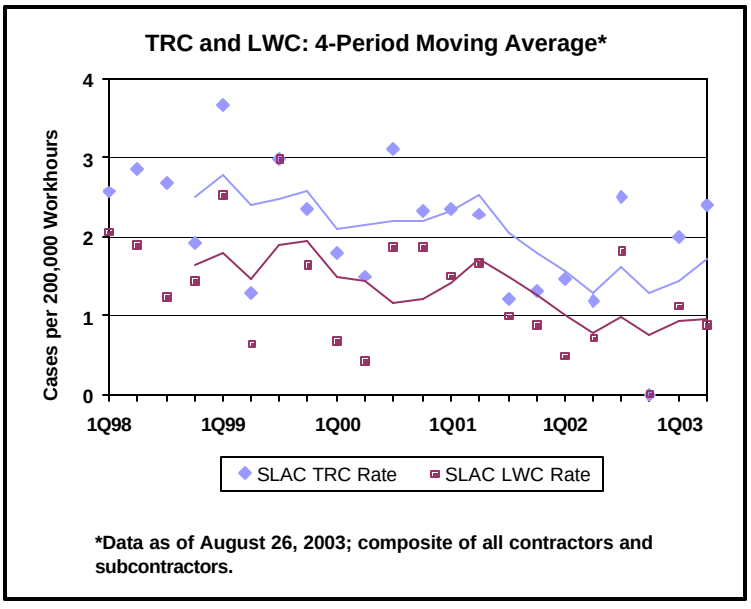
SLAC's mission is experimental and theoretical research in elementary particle physics using electron beams, as well as a broad program of research in atomic and sold state physics, chemistry, biology, environmental science, and medicine using synchrotron radiation.

1. In the light of the external regulation initiative and ongoing ISMS self-assessment requirements, the annual SLAC safety standdown has been replaced this year by a program assessment. This program assessment will compare SLAC safety programs against the criteria of the OSHA Voluntary Protection Program (VPP) and Integrated Safety Management Systems (ISMS) principles. This assessment will help SLAC continue to conduct its scientific mission while managing and integrating programs to address safety and environmental issues. This assessment is composed of five teams with three persons each. Each team is expected to interview about 30 persons from within each divisional element's staff and conduct walk-through of selected facilities in the divisions assigned. Each team's report will be prepared and submitted to the Safety and Environmental Assistance Committee for production of a final site-wide report for incorporation as a part of the SLAC ES&H Self-Assessment report for FY03. Based in part on the results of the self-assessment, SLAC management will evaluate the appropriateness of the lab's moving forward with OSHA VPP, a third party safety program certification process.

Areas for Management Attention

1. On January 28, 2003, a SLAC systems engineer sustained head injuries as the result of a fall from a ladder at an RF power supply at the Stanford Synchrotron Radiation Laboratory. The fall resulted in the hospitalization of the employee. On February 5, 2003, a Type B Accident Investigation Board was appointed by the Director of the SSO (DOE Appointing Official) to conduct the investigation of the accident under DOE Order 225.1A. SLAC and SSO developed Corrective Action Plans (CAPs). The SSO received approval of the CAP from the Office of Science on June 24, 2003. The contract has been modified to incorporate corrective actions resulting from the accident investigation. The SSO has completed validation of the initial CAP milestones and a summary will be included in the next quarterly report.

2. The July 2000 DOE moratorium on the recycling of scrap metals from radiological areas and the delays in finalization of the metals recycling Programmatic Environmental Impact Statement continues to impact the ability of the site to manage the accumulation of scrap metals. The SSO has been working with the Laboratory to identify and establish additional locations around the site to store scrap metals as capacity in existing locations is used up. This has resulted in additional materials management costs to ensure that the material is being secured properly and is stored in a manner that doesn't pose a risk to the environment.



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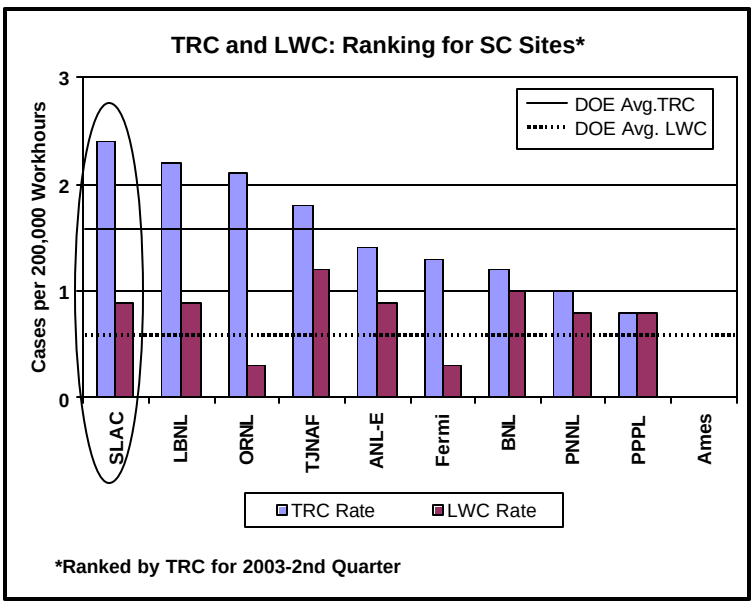


*Ranked by TRC for 2003-2nd Quarter

Key Performance Areas (There were 0 occurrences at SLAC for the 2nd Quarter)	
Near Misses (0) • None	**Criticality Infractions (0)** • None
Radiological Concerns (0) • None	**AB Infractions (0)** • None
Shipping QA (0) • None	**Safeguards and Security (0)** • None
Fire Safety (0) • None	**Environmental Releases/Compliance (0)** • None
Other (0) • None	

Progress on Safety Management Issues:

- The SSO will be providing in the next quarterly report a more detailed summary of the Laboratory's investigation assessment of programmatic impacts and follow-up on corrective actions related to the modulator fire that occurred at the Next Linear Collider Test Accelerator (NLCTA) on July 9, 2003. The fire at the NLCTA Station 1 klystron high voltage modulator was caused by an electrical failure inside the pulse forming network (PFN) cabinet. The equipment inside of the cabinet and some support equipment and cables located above the modulator unit were destroyed and approximately 100 gallons of displaced oil spilled onto the floor as a result of the ruptured water hoses.

QUARTERLY REPORT
April – June 2003
Thomas Jefferson National Accelerator Facility (TJNAF)

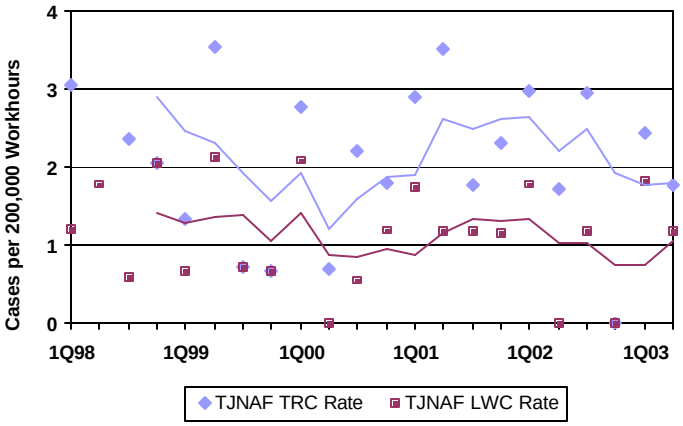
Safety-Related Mission Areas of Interest

TJNAF's main mission is basic research into the quark structure of matter. TJNAF is also active in the development of high power free electron lasers. Core competencies include superconducting radiofrequency technology, 2K cryogenics, and high power free electron lasers.

Areas for Management Attention

1. The Laboratory has experienced four accidents this quarter. Three were personal injury incidents and one was a crane incident that caused minor property damage. Laboratory management has taken steps to reinforce its policy that safety is a priority in all work areas/processes by taking several actions such as a safety stand-down, identifying system owners of equipment and retraining of personnel. The Laboratory is investigating what additional measures are needed to address behavioral and other issues.

TRC and LWC: 4-Period Moving Average*



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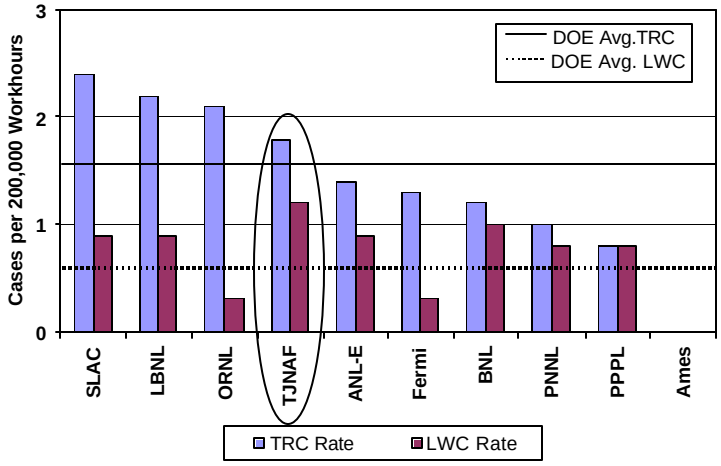
TRC and LWC: Ranking for SC Sites*



***Ranked by TRC for 2003-2nd Quarter**

Key Performance Areas (There were 2 occurrence at TJNAF for the 2nd Quarter)	
Near Misses (2) • A crane hook struck an equipment cabinet where two electrical conduits were severed, and continued moving until striking stacked radiation shielding blocks and an installed radiation monitor. *CA: Use of the crane by subcontractor personnel was suspended pending their successful re-take of the crane operator training. The training has been completed.* • A worker contaminated himself with an acid mixture. He received initial treatment for facial skin blistering. *CA: Worker disqualified for chemistry work and required to re-qualify. Work planning and appropriate documentation required before any further sample taking was required.*	**ConOps** • None
Radiological Concerns • None	**AB Infractions** • None
Shipping QA • None	**Safeguards and Security** • None
Fire Safety • None	**Environmental Releases/Compliance** • None
Criticality Infractions • None	

Progress on Safety Management Initiatives

- **Accident Investigation Improvement Initiative**. Recent accident investigations have taken over two weeks to complete and witnesses' memory of details seem to become less reliable as time elapses. Concerned about this, the Lab Director has commissioned a team to look at ways to ensure completion of high quality investigations within three business days.
- **Stretch Safety Goals.** Jefferson Lab is working with the other Office of Science labs to develop long term safety goals tailored to the individual labs. Current discussions are focused on developing goals based on TRC and LWC statistics for R&D organizations available from the Bureau of Labor Statistics. The goals are expected to be challenging and meaningful to lab personnel while demonstrating outstanding safety performance.
- **Tabletop exercise.** At Jefferson Lab the Director's Command Staff (DCS) is responsible for coordinating and directing emergency response. During a recent tabletop exercise the DCS faced a scenario in which a windstorm partially destroyed an administrative building resulting in personnel injuries. The exercise provided the opportunity for the DCS to interact and discuss different ways that might address the safety concerns involved in such an event. Several opportunities for improvement were identified. Site Office staff observed.